

## Bodies not Electrolysable Alone

### 119

deavoured to prepare a perfectly anhydrous portion, but could not spare the time required to procure an unexceptionable result.

420. Nitric acid is a substance which I believe is not decomposed directly by the electric current. As I want the facts in illustration of the distinction existing between primary and secondary decomposition, I will merely refer to them in this place (487).

421. That these mineral acids should confer facility of conduction and decomposition on water, is no proof that they are competent to favour and suffer these actions in themselves.

Boracic acid does the same thing, though not decomposable.

M. de la Rive has pointed out that chlorine has this power also; but being to us an elementary substance, it cannot be due to its capability of suffering decomposition.

422. *Chloride of stlphur* does not conduct, nor is it decomposed. It consists of single proportionals of its elements, but is not on that account an exception to the rule (414), which does not affirm that *all* compounds of single proportionals of elements are decomposable, but that such as are decomposable are so constituted.

423. *Protochlond of phosphorus* does not conduct nor become decomposed.

424. *Protochlond of carbon* does not conduct nor suffer decomposition. In association with this substance, I submitted the *hydro-chloride of carbon* from olefiant gas and chlorine to the action of the electric current; but it also refused to conduct or yield up its elements.

425. With regard to the exceptions (414), upon closer examination, some of them disappear. Chloride of antimony (a compound of one proportional of antimony and one and a half

of chlorine) of recent preparation was put into a tube (fig. 28) (524), and submitted when fused to the action of the current, the positive electrode being of plumbago. No electricity passed, and no appearance of decomposition was visible at first; but when the positive and negative electrodes were brought very-near each other in the chloride, then a feeble action occurred and a feeble current passed. The effect altogether was so small (although quite amenable to the law before given (130)),

and so unlike the decomposition and conduction  
occurring in  
all the other cases, that I attribute it to the  
presence of a minute  
quantity of water (for which this and many other  
chlorides have  
strong attractions, producing hydrated  
chlorides), or perhaps